

**I CLAIM:**

1. In a pool cover system including a flexible fabric cover winding and unwinding from a cover drum located at one end of a pool wherein:

A) the cover has parallel beaded side edges each captured and sliding within a "C" channel of a pool cover track secured along opposites sides of the pool and a front edge supported by a rigid structural boom spanning the pool supported by a pair of sliders each captured and siding within a "C" channel of a pool cover track;

B) each slider is anchored to a cable extending from a front corner of each beaded side edge of the cover which winds and unwinds from a cable reel; and

C) the cover drum and cable reels are each rotated by a hydraulic motor for retracting and extending the cover across the pool, an improvement, comprising in combination therewith, at least a pair of positive stops for arresting translation of the respective sliders sliding with in the "C" channels of the pool cover track toward the cover drum located at each end of each pool cover track proximate the cover drum, each stop including:

a) a top member having a mating surface with two parallel half cylinder channels with lands defining an alignment slot between the channels,

b) a base member having a complementary mating surface to that of the top member with two parallel half cylinder channels and a central alignment rail between the channels dimensioned to fit into the alignment slot of the top member, the alignment rail extending perpendicularly from a side of the base member, and

PD  
 5 c) means for securing the top and base members together and at the respective ends of the parallel pool cover tracks with the alignment rail extending perpendicularly from the side of the base member inserted into a rectangular space between the "C" channel and a cable return channel of the pool cover track which aligns the mating half cylinder channels of the top and base members with the corresponding cable return and "C" channels of the track, the mating surfaces of the top and base members defining:

P3  
 L 10 (i) a cylindrical cable channel; and

(ii) a longitudinally slit, cylindrical, beaded cover edge channel dimensioned for stopping translation of the slider while allowing passage of the beaded side edge of the pool cover to through the stop.

15 2. A positive stop for arresting translation of a slider captured and sliding within a "C" channel of a pool cover track anchored to a cable extending from a front corner of a beaded side edge of a pool cover at an end of the pool cover track, comprising, in combination,

P1 20 a) a top member having a mating surface<sup>28</sup> with two parallel half cylinder channels with lands defining an alignment slot between the channels,

P1  
 25 b) a base member having a complementary mating surface to that of the top member with two parallel half cylinder channels and a central alignment rail between the channels dimensioned to fit into the alignment slot of the top member, the alignment rail extending perpendicularly from a side of the base member, and

P1  
 14 c) means for securing the top and base members together and at the end of the pool cover track with the alignment rail extending

perpendicularly from the side of the base member inserted into a rectangular space between the "C" channel and a cable channel of the pool cover track which aligns the mating half cylinder channels of the top and base members with the corresponding cable return and "C" channels of the track, the mating surfaces of the top and base members defining:

- (i) a cylindrical cable channel; and
- (ii) a longitudinally slit, cylindrical, beaded cover edge channel dimensioned for stopping translation of the slider while allowing passage of the beaded edge of the cover through the stop.

3. A positive stop as described in claim 1 or 2 wherein the beaded side edge of the pool cover has a maximum diameter dimension, and the slider anchored to the cable has a minimum diameter dimension greater than the maximum diameter of the beaded side edge of the pool cover, and the longitudinally slit, cylindrical, beaded cover edge channel has a diameter dimension greater than the maximum diameter of the beaded side edge of the pool cover and less than minimum diameter dimension of the slider anchored to the cable extending from the beaded edge.

4. A positive stop as described in claim 3 wherein the slider is anchored to the cable a distance 'd' measured along the cable from the beaded side edge of the pool cover, and the top and base members of the stop have a width 'w' measured parallel the cylindrical beaded edge channel where 'w' is greater than 'd' such that the beaded side edge of the cover always remains within the longitudinally slit, cylindrical, beaded cover edge channel of the stop.

5. A positive stop as described in claim 1 or 2 wherein the pool cover has a maximum thickness adjacent its beaded edge, and the slider anchored to the cable has a minimum thickness adjacent to the cable greater than the maximum thickness of the pool cover, and the longitudinal slit of the beaded cover edge channel has a gap width greater than the maximum thickness of the pool cover and less than the minimum thickness of the slider adjacent the cable.
6. A positive stop as described in claim 5 wherein the slider is anchored to the cable a distance 'd' measured along the cable from the beaded side edge of the pool cover, and the top and base members of the stop have a width 'w' measured parallel the cylindrical beaded edge channel where 'w' is greater than 'd' such that the beaded side edge of the cover always remains within the longitudinally slit, cylindrical, beaded cover edge channel of the stop.
7. A positive stop as described in claim 1 or 2 wherein the slider has a strike section exterior the "C" channel of the track, and wherein the top member of the stop has a nose section which extends perpendicularly toward the pool beyond the "C" channel of the track to a position for intercepting the strike section of the slider.
8. A positive stop as described in claim 7 wherein the slider is anchored to the cable such that its strike section is distance 'd' measured along the cable from the beaded side edge of the pool cover, and the top and base members have a width 'w' measured parallel the cylindrical beaded edge channel where 'w' is greater than 'd', whereby, the beaded side edge of the cover always remains within the longitudinally slit, cylindrical, beaded cover edge channel of the stop.

9. A positive stop as described in claim 7 wherein the nose section of the top member has a prong which extends along and exterior the "C" channel of the track for intercepting the strike section of the slider arresting translation of the slider before it reaches the end of the of the pool cover track, whereby, the distance measured from the end of the track at which the stop is arrested may be adjusted by adjusting the length of the nose prong.
10. A positive stop as described in claim 1 or 2 and further including a slotted sleeve element anchored at one end in the longitudinally slit, cylindrical, beaded cover edge channel of the stop and extending down the "C" channel of the pool cover track for arresting translation of the slider before it reaches the end of the track, the slotted sleeve element having a bore diameter and a slot gap dimension for allowing passage of the beaded pool cover edge and preventing passage of the slider, whereby, the distance from the end of the track at which the slider is arrested may be adjusted by adjusting the length the sleeve extends down the "C" channel of the track.
11. A positive stop as described in claim 10 wherein the slotted sleeve element has an anchoring tab at its anchored end which extends perpendicularly with respect to its longitudinal axis, and wherein the means for securing the top and base members together and at the end of the pool cover track also secures the anchoring tab of the slotted sleeve within the stop.
12. A positive stop as described in claim 10 wherein the slotted sleeve includes a raised exterior annular shoulder at its anchored end which is received in a cylindrical relief cut into the cylindrical walls of the mating surfaces of the top and base members defining

the longitudinally slit, cylindrical, beaded cover edge channel of the stop.

13. An automated pool cover system for covering and uncovering a pool of liquid, comprising in combination,

a) a flexible fabric cover winding and unwinding from a cover drum located at one end of a pool sized for floating upon the liquid in the pool and having a front edge, and parallel beaded side edges captured and sliding within "C" channels of parallel pool cover tracks secured along opposites sides of the pool,

b) a rigid structural boom spanning the pool supported by a pair of sliders each captured and siding within a "C" channel of a pool cover track supporting the front edge of the cover above the liquid in the pool wherein each slider is anchored to a cable extending from each front corner of the beaded side edge of the cover which winds and unwinds from a cable reel,

c) at least one hydraulic motor coupled for rotating the cover drum and cable reel for retracting and extending the cover across the pool,

d) positive stops for arresting translation of the respective sliders sliding with in the "C" channels of the pool cover track toward the cover drum located at each end of each pool cover track proximate the cover drum, each stop including:

(i) a top member having a mating surface with two parallel half cylinder channels with lands defining an alignment slot between the channels,

(ii) a base member having a complementary mating surface to that of the top member with two parallel half cylinder channels and a central alignment rail between the

channels dimensioned to fit into the alignment slot of the top member, the alignment rail extending perpendicularly from a side of the base member, and

- (iii) means for securing the top and base members together and at the respective ends of the parallel pool cover tracks with the alignment rail extending perpendicularly from the side of the base member inserted into a rectangular space between the "C" channel and a cable channel of the pool cover track which aligns the mating half cylinder channels of the top and base members with the corresponding cable return and "C" channels of the track,

the mating surfaces of the top and base members defining:

- (iv) a cylindrical cable channel; and  
 (v) a longitudinally slit, cylindrical, beaded cover edge channel dimensioned for stopping translation of the slider while allowing the beaded edge of the pool cover to slide through the stop.

14. The automated pool cover system of claim 13 and further including positive stops for arresting translation of the respective sliders sliding with in the "C" channels of the pool cover track away from the cover drum located at each end of each pool cover track distant from the cover drum, each stop including:

- (vi) a top member having a mating surface with two parallel half cylinder channels with lands defining an alignment slot between the channels,  
 (vii) a base member having a complementary mating surface to that of the top member with two parallel half cylinder

channels and a central alignment rail between the channels dimensioned to fit into the alignment slot of the top member, the alignment rail extending perpendicularly from a side of the base member, and

5 (viii) means for securing the top and base members together and at the respective ends of the parallel pool cover tracks with the alignment rail extending perpendicularly from the side of the base member inserted into a rectangular space between the "C" channel and the  
10 return cable channel of the pool cover track which aligns the mating half cylinder channels of the top and base members of the stop with the corresponding cable return and "C" channels of the track,

15 the mating surfaces of the top and base members defining two cylindrical cable channels being dimensioned for stopping translation of the slider while allowing passage of the cable.

— E n d —